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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/381,061	12/06/1999	MASAYUKI TODA	FUK-59	3463

22855 7590 07/31/2002

RANDALL J. KNUTH P.C.
3510-A STELLHORN ROAD
FORT WAYNE, IN 46815-4631

EXAMINER

BUEKER, RICHARD R

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 07/31/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/381,061

Applicant(s)

TODA ET AL.

Examiner

Richard Bueker

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paper
no. 12**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 May 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "one or more fine pores", which is used repeatedly in amended claims 1-6, is new matter. The specification as filed did not disclose an embodiment in which only one fine pore is used alone to float the substrate body, or an embodiment in which only one fine pore is used to center the substrate body, or an embodiment in which only one fine pore is used to rotate the substrate body, or an embodiment in which only one fine pore is used to suppress vibration of the substrate body. Since the phrase "one or more fine pores" specifically includes an embodiment in which only one fine pore is used, and the specification as filed did not disclose such an embodiment, these newly claimed limitations are new matter.

Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, the phrase "a surface of said floating unit is divided into four areas by an angular space of 90 degrees" is non-idiomatic, vague and indefinite. The phrase "angular space of ninety degrees" is also non-idiomatic, vague and indefinite. In claim 3, line 5, "said one or more said fine pores" is non idiomatic and should be changed to "and said one or more fine pores". Also in claim 3, the phrase "said fine pores for floating are provided in one area that is parallel to a diagonal line of each area and oriented to a center of said floating unit" is vague and

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indefinite. It is not clear whether the recited "one area" and "each area" are intended to refer to the "four areas" previously defined in claim 3. Also, the phrase "one area that is parallel to a diagonal line" is indefinite because it violates the definition of "parallel", which is defined as "extending in the same direction, everywhere equidistant and not meeting". An area is not everywhere equidistant from a line. Also in claim 3, "a diagonal line of each area" is vague and indefinite because "diagonal" is defined as "joining two non-adjacent vertices of a rectilinear or polyhedral figure", and the "each area" referred to is not defined in the claims as a rectilinear or polyhedral figure. In claim 4, the phrase "an angular space" is non-idiomatic, vague and indefinite. In claim 5, the phrase "oriented in an opposite tangential direction" is vague and indefinite. In claim 6, the phrase "oriented to a center" is vague and indefinite, and applicants are requested to state the definition of "oriented" that they are relying on for this phrase. Also in claim 6, the phrase "located on a periphery of a circle from the position of said one or more fine pores for rotating" is vague and indefinite because of the use of the word "from" in this phrase. Also in claim 6, the phrase "from a center of said floating unit at an angular space of 90 degrees therebetween" is vague and indefinite.

Claims 8-9 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Amada for the reasons stated in the previous office action.

Claim 8 stands rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruyama for the reasons stated in the previous office action.

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Claim 8 stands rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bhat for the reasons stated in the previous office action.

Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Bhat in view of Nishitani, White and Foster for the reasons stated in the previous office action.

Claims 1-7 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hiura (JP-59-215718) for the reasons stated in the previous office action.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aschner for the reasons stated in the previous office action.

Applicants have argued that Hiura does not disclose one or more fine pores for suppressing vibration when the substrate is rotated at high speed. It is noted, however, that applicants' specification at page 6, lines 3-6, states that raising the rotational speed of a substrate body will suppress vibrations. Since Hiura (see abstract and Fig. 2) discloses the use of one or more fine pores for rotating the substrate, and applicants make clear that increasing the rotating speed will have the effect of suppressing vibration, Hiura's fine pores for rotating have an inherent capability to suppress vibration, when the gas flow rate from these fine pores is started and/or increased.

Also, applicants' specification at page 5, lines 14-16, states that centering gas from fine pores for centering can also have the intended effect of reducing vibrations. Since Hiura (see abstract and Fig. 2) discloses the use of one or more fine pores for

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centering the substrate, and applicants make clear that centering gas will have the effect of suppressing vibration, Hiura's fine pores for centering have an inherent capability to suppress vibration, when the gas flow rate from these fine pores is started and/or increased.

Also, since the Hiura discloses plural fine pores for rotation, any one of these fine pores can be considered to meet the claimed limitation of "one or more fine pores for rotating", and another of these fine pores can be considered to meet the limitation of "one or more auxiliary fine pores for suppressing vibration". Alternatively, one of these fine pores of Hiura can be considered to have the two different functions of rotating and suppressing vibration, and thus by itself meet both of these limitations. The same logic holds true for the fine pores for centering.

It is noted that "auxiliary" means "supplementary" or "augmenting". Thus, one auxiliary fine pore for suppressing vibration can be an additional fine pore that supplements or augments other fine pores for centering and/or rotating that inherently act to suppress vibration.

Applicants have also argued that Hiura's substrate "possibly" vibrates excessively. It is noted, however, that Hiura describes his apparatus as successfully carrying out the intended purpose of heat treating a semiconductor wafer, and therefore it can reasonably be assumed that the wafer does not vibrate excessively.

Applicants have argued that the rejections based on Bhat, Maruyama and Amada should be removed because they do not teach a floating means for suppressing vibration as now recited in claim 8. It is noted, however, that applicants' specification at

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page 6, lines 3-6, states that raising the rotational speed of a substrate body will suppress vibrations. Since these references all disclose the use of one or more fine pores for rotating the substrate, and applicants make clear that increasing the rotating speed will have the effect of suppressing vibration, the fine pores of for rotating of Bhat, Maruyama and Amada have an inherent capability to suppress vibration, when the gas flow rate from these fine pores is started and/or increased. It is noted that the particular gas flow rate for rotation or the particular rotation rate are method limitations and are not part of the present apparatus claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

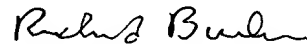
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (703) 308-1895. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Richard Bueker
Primary Examiner
Art Unit 1763

July 28, 2002